

Broken Into More Specific

M08.A-N.1.1.1: Determine whether a number is rational or irrational. For rational numbers, show that the decimal expansion terminates or repeats (limit repeating decimals to thousandths).

split into two questions - one question can just ask if its rational or irrational a second question can ask if a decimal expansion of a rational terminates or repeats (students do not appear to be developmentally ready for the nuances of this multi-level question)

M08.A-N.1.1.2: Convert a terminating or repeating decimal to a rational number (limit repeating decimals to thousandths).

Break statement into question about slope and question about rational/irrational

I believe that it is reasonable to ask students to convert a terminating decimal to a fraction, but don't think it is reasonable for all 8th graders to convert repeating decimals to a fraction. This skill would make more sense to students after they have studied systems of equations.

M08.A-N.1.1.4: Use rational approximations of irrational numbers to compare and order irrational numbers.

That sample is not what is being tested. POOR SAMPLE.

The sample test question assumes that students can simplify a radical, which is not 8th grade material. I don't like the question. If you just simply use the decimal approximations, it is a fair skill. The other thing to be considered is: what is being assessed? This question also uses the Pythagorean Formula to calculate the length, then wants to compare. Not a fair question for this grade.

This sample problem requires the use of two mutually exclusive topics, Pythagorean Theorem and approximations of irrational numbers. Students who do not understand the Pythagorean Theorem would have trouble with this topic when the topic being assessed is rational numbers. Therefore I believe this question is unfair.

M08.B-E.1.1.3: Estimate very large or very small quantities by using numbers expressed in the form of a single digit times an integer power of 10 and express how many times larger or smaller one number is than another. Example: Estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9 and determine that the

world population is more than 20 times larger than the United States' population.

8th grade is the first time that students see scientific notation - I think the questions should focus just on writing numbers in scientific notation and wait for high school to worry about the "how many times larger or smaller" part of the question

M08.B-E.2.1.2: Use similar right triangles to show and explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane.

Ask for a comparison of the slope of the hypotenuse of each right triangle: A. slope of A is $\frac{1}{2}$ slope of B B. slope of A is equal to slope of B C. slope of A is twice the slope of B D. impossible to determine

M08.B-E.3.1.2: Solve linear equations that have rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

Solve linear equations that have rational number coefficients and constants, including equations whose solutions require expanding expressions using the distributive property and collecting like terms. (The example you gave includes rational number coefficients and constants yet your statement says only rational number coefficients. Your example also combines multiple forms of rational numbers with every possible variation of a linear equation. Most 8th graders are not in Algebra 1 yet this problem looks like Algebra 1.)

M08.C-G.1.1.3: Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.

This is very vague. Is it only being rotated around the origin or a point? Do you dilate around the origin only?????

M08.C-G.1.1.4: Given two similar two-dimensional figures, describe a sequence of transformations that exhibits the similarity between them.

break question into just dilation or just reflection

M08.C-G.2.1.2: Apply the Pythagorean theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. (Figures provided for problems in three dimensions will be consistent with Eligible Content in grade 8 and below.)

have students only place answer for x OR y on number line

Let the question be to find x and y. There is no need to complicated the problem by asking where x and y is located on the number line.

Make it an open-ended question (Make it an open-ended question)

M08.C-G.2.1.3: Apply the Pythagorean theorem to find the distance between two points in a coordinate system.

eliminate the piece about the cone

I like using the Pythagorean Theorem to find distances in the coordinate plane - period. Don't include the stuff about the slant height of a cone - it just overcomplicates everything!

Make it an open-ended question. (Make it an open-ended question.)

Wording and question is confusing . . .

M08.D-S.1.1.2: For scatter plots that suggest a linear association, identify a line of best fit by judging the closeness of the data points to the line.

Line of best fit it difficult for high school Algebra 1. This statement should be broken up and line of best fit should only be assessed in high school

Different Grade

M08.A-N.1.1.1: Determine whether a number is rational or irrational. For rational numbers, show that the decimal expansion terminates or repeats (limit repeating decimals to thousandths).

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M08.A-N.1.1.2: Convert a terminating or repeating decimal to a rational number (limit repeating decimals to thousandths).

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M08.A-N.1.1.3: Estimate the value of irrational numbers without a calculator (limit whole number radicand to less than 144). Example: $\sqrt{5}$ is between 2 and 3 but closer to 2.

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M08.A-N.1.1.4: Use rational approximations of irrational numbers to compare and order irrational numbers.

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M08.A-N.1.1.5: Locate/identify rational and irrational numbers at their approximate locations on a number line.

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M08.B-E.1.1.1: Apply one or more properties of integer exponents to generate equivalent numerical expressions without a calculator (with final answers expressed in exponential form with positive exponents). Properties will be provided. Example: $3^{12} \times 3^{-15} = 3^{-3} = 1/(3^3)$

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M08.B-E.1.1.2: Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of perfect squares (up to and including 12^2) and cube roots of perfect cubes (up to and including 5^3) without a calculator. Example: If $x^2 = 25$ then $x = \pm\sqrt{25}$.

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M08.B-E.1.1.3: Estimate very large or very small quantities by using numbers expressed in the form of a single digit times an integer power of 10 and express how many times larger or smaller one number is than another. Example: Estimate the population of the United States as $3 \times$

10^8 and the population of the world as 7×10^9 and determine that the world population is more than 20 times larger than the United States' population.

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M08.B-E.1.1.4: Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Express answers in scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology (e.g., interpret 4.7EE9 displayed on a calculator as 4.7×10^9).

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M08.B-E.2.1.1: Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. Example: Compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.

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M08.B-E.2.1.2: Use similar right triangles to show and explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane.

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M08.B-E.2.1.3: Derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b .

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M08.B-E.3.1.1: Write and identify linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation

into simpler forms until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).

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M08.B-E.3.1.2: Solve linear equations that have rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

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M08.B-E.3.1.3: Interpret solutions to a system of two linear equations in two variables as points of intersection of their graphs because points of intersection satisfy both equations simultaneously.

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M08.B-E.3.1.4: Solve systems of two linear equations in two variables algebraically and estimate solutions by graphing the equations. Solve simple cases by inspection. Example: $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.

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M08.B-E.3.1.5: Solve real-world and mathematical problems leading to two linear equations in two variables. Example: Given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.

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M08.B-F.1.1.1: Determine whether a relation is a function.

M08.B-F.1.1.2: Compare properties of two functions, each represented in a different way (i.e., algebraically, graphically, numerically in tables, or by verbal descriptions). Example: Given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.

M08.B-F.1.1.3: Interpret the equation $y = mx + b$ as defining a linear function whose graph is a straight line; give examples of functions that are not linear.

M08.B-F.2.1.1: Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models and in terms of its graph or a table of values.

M08.B-F.2.1.2: Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch or determine a graph that exhibits the qualitative features of a function that has been described verbally.

M08.C-G.1.1.1: Identify and apply properties of rotations, reflections, and translations. Example: Angle measures are preserved in rotations, reflections, and translations.

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M08.C-G.1.1.2: Given two congruent figures, describe a sequence of transformations that exhibits the congruence between them.

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M08.C-G.1.1.3: Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.

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M08.C-G.1.1.4: Given two similar two-dimensional figures, describe a sequence of transformations that exhibits the similarity between them.

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M08.C-G.2.1.2: Apply the Pythagorean theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. (Figures provided for problems in three dimensions will be consistent with Eligible Content in grade 8 and below.)

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M08.C-G.2.1.3: Apply the Pythagorean theorem to find the distance between two points in a coordinate system.

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M08.C-G.3.1.1: Apply formulas for the volumes of cones, cylinders, and spheres to solve real-world and mathematical problems. Formulas will be provided.

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M08.D-S.1.1.1: Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative correlation, linear association, and nonlinear association.

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M08.D-S.1.1.2: For scatter plots that suggest a linear association, identify a line of best fit by judging the closeness of the data points to the line.

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M08.D-S.1.1.3: Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. Example: In a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.

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M08.D-S.1.2.1: Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible associations between the two variables. Example: Given data on whether students have a curfew on school nights and whether they have assigned chores at home, is there evidence that those who have a curfew also tend to have chores?

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Rewritten

M08.A-N.1.1.1: Determine whether a number is rational or irrational. For rational numbers, show that the decimal expansion terminates or repeats (limit repeating decimals to thousandths).

Use 12/17 (Statement is okay . . . just make it a fraction with smaller numbers. Lower learners will shut down just seeing that fraction.)

M08.A-N.1.1.2: Convert a terminating or repeating decimal to a rational

number (limit repeating decimals to thousandths).

B and D provide options that are not relevant, and A and D are guess. Rational and irrational numbers are not defined.

Convert a terminating decimal to a rational number.

Convert a terminating decimal to a rational number. (There is absolutely no reason for students to need to know how to convert a repeating decimal to a rational number.)

Convert a terminating or repeating decimal to a rational number. (Do not require 8th grade students to prove why repeating decimals are rational by using $n = 0.3333$, etc.)

Convert terminating decimals to a rational number.

Use a fraction or terminating decimal. (How often is slope written as a repeating decimal . . . never. Why even go there?)

The statement itself is fine; however, the example provided takes the skill set to a much higher level. In grade 8, students should be able to convert a decimal to a rational number, but then making a graphical representation to a linear equation and interpreting the slope moves the skill into Keystone Algebra I.

M08.A-N.1.1.3: Estimate the value of irrational numbers without a calculator (limit whole number radicand to less than 144). Example: $\sqrt{5}$ is between 2 and 3 but closer to 2.

Cell phone has a diagonal screen of what is the closest estimate. (Too wordy . . . brief and to the point.)

M08.A-N.1.1.4: Use rational approximations of irrational numbers to compare and order irrational numbers.

my eyes are glazing over reading the choices - if this is in a section of the test where calculators are allowed then tell the students where to round to and let them go at it

The comparison part should be labeled Triangle A or B (Wow, how confusing. Assuming that all students will set up doing Triangle A first and then Triangle B . . . not user friendly)

The statement should include more information defining a hypothesis.

When the answers were given, the value of the hypotenuses were given in a simplified form of a radical. Students in an 8th grade classroom will not have that skill and it is confusing.

Simplifying radicals is a concept taught in an Algebra II course. If the intention of the question is

comparing the length of the hypotenuses, I think it would be an acceptable question IF IF IF the answers were expressed in a form that the students have learned.

M08.A-N.1.1.5: Locate/identify rational and irrational numbers at their approximate locations on a number line.

Keep any square root questions, but delete any cubed roots questions. (Cubed roots are not, and should not be introduced until later.)

M08.B-E.1.1.1: Apply one or more properties of integer exponents to generate equivalent numerical expressions without a calculator (with final answers expressed in exponential form with positive exponents).

Properties will be provided. Example: $3^{12} \times 3^{-15} = 3^{-3} = 1/(3^3)$

Rewrite the whole problem in real terms. This question is not a good example of where properties of exponents are used in the real world. (What real life question would state the question as 5^3 cubes? Do one in a real world situation would say it as 5^3 they would say 125 small plastic cubes.)

should not have all the numbers written as exponents. this is to confusing for students.

Simplify: 5^2 . 5^3 . 5^3 (using appropriate math symbols)

M08.B-E.1.1.2: Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of perfect squares (up to and including 12^2) and cube roots of perfect cubes (up to and including 5^3) without a calculator. Example: If $x^2 = 25$ then $x = \pm\sqrt{25}$.

I dislike the typical wrong answer placed as option A . It should be placed some where like D so to insure that the students look at all of the possible options.

Keep the square root of 25, but delete any cubed roots. (Cubed roots should be introduced later.)

M08.B-E.1.1.3: Estimate very large or very small quantities by using numbers expressed in the form of a single digit times an integer power of 10 and express how many times larger or smaller one number is than another. Example: Estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9 and determine that the world population is more than 20 times larger than the United States'

population.

Convert 4×10^{-3} to standard notation. (The students can show that they understand scientific notation without getting tricked by the wording of comparing 2 types of scientific notation. The way the question is worded now will trip up students who struggle with reading and that is not the point of a math assessment.)

In this eligible content's question, it states "is how many times as great as." In my classroom, I shared this sample with my students as a review and many students who had demonstrated proficiency in this skill were unable to solve the problem because of the readability of the statement.

The population of the world is 20 times larger than the population of the US. Given estimates of each population, express the rationale.

M08.B-E.2.1.1: Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. Example: Compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.

'BEST' describes is 'subjective'. Math is not subjective. Be concise with your questions and require concise answers.

Change the word proportional to linear. (Students tend to get confused between the two, and it is more in line with other standards that they understand linear.)

M08.B-E.3.1.1: Write and identify linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).

I am okay with the statement but I do think that point-slope form should be given on the formula sheet so students have options of how to write a linear equation. (Algebra 1 is an introduction at the 8th grade level and I believe it is better to introduce this concept using point-slope form. This is especially needed for special ed students.)

Not sure of the practicality of this problem. Students can solve equations but this will confuse because they can't check and may never understand the no solution which does not occur much for the basic math student.

M08.B-E.3.1.2: Solve linear equations that have rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

The M08.B-E.3.1.2 sample question does not effectively assess a student's ability to solve an equation with the distributive property and collecting like terms. RATHER, it tricks into making computational error due to the combination of decimals, terminating fractions, and nonterminating fractions in the problem. Therefore, making the process of solving the problem unlikely to be the cause of failure.

Use realistic fractions. (When do you measure fabric in these measurements? Not practical!)

M08.B-E.3.1.4: Solve systems of two linear equations in two variables algebraically and estimate solutions by graphing the equations. Solve simple cases by inspection. Example: $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.

Decimals are not needed. (Rewrite equations without decimals.)

Pre-Algebra students can solve systems of equations by the equal values method but not the elimination method.

M08.B-F.1.1.1: Determine whether a relation is a function.

Answer choice D. Will be tricky for a lot of 8th grade students who are only taking pre-algebra. (This is more of an Algebra concept and many pre-algebra students are not developmentally ready to make the switch to such an abstract way of thinking about graphs. This level of thinking can be achieved if teachers teach to the test; however, most teachers who care about imparting true knowledge will not want to take on this approach to teaching.)

M08.B-F.1.1.2: Compare properties of two functions, each represented in a different way (i.e., algebraically, graphically, numerically in tables, or by verbal descriptions). Example: Given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.

"Run-on" questions (Questions should be broken down or even limited to only one question.)

M08.B-F.1.1.3: Interpret the equation $y = mx + b$ as defining a linear function whose graph is a straight line; give examples of functions that are not linear.

Interpret the equation $y=mx+b$ as defining a linear function whose graph is a straight line. (Since students have no experience with any other types of graphs, I think the second part of this statement should be in HS.)

M08.B-F.2.1.1: Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models and in terms of its graph or a table of values.

the reason a student starts a savings account is to save money with compounded interest. if there is no compounded interest then there's no point to giving your money freely to a bank. rewrite statement so that child saves money, but in her piggy bank. When students are ready to add in compounding simple interest THEN they should have the equation written as dollars saved plus interest.

M08.C-G.1.1.4: Given two similar two-dimensional figures, describe a sequence of transformations that exhibits the similarity between them.

Given 2 similar figures, find the value of one of the missing sides.

M08.C-G.2.1.2: Apply the Pythagorean theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. (Figures provided for problems in three dimensions will be consistent with Eligible Content in grade 8 and below.)

As an open-ended question

number lines are for little children, not algebra students. Once you pass 3rd grade number lines are off limits.

Use as an open ended question.

M08.C-G.2.1.3: Apply the Pythagorean theorem to find the distance between two points in a coordinate system.

As an open-ended question

The question was very difficult for my students when we practiced in class with the eligible content. They knew how to calculate the distance on the coordinate plane but they felt that they still needed to use the coordinate plane in the problem. They did not realize or understand

that the length of the hypotenuse was the new leg in the other image. The concept is acceptable for an 8th grade class but the wordiness of the question was misleading and confusing to even my most talented (advanced) kids.

This is too confusing. Only ask the students to find the distance between order pairs on the rectangular grid. There is no need to compare this to a cone.

Use as open ended question.

M08.C-G.3.1.1: Apply formulas for the volumes of cones, cylinders, and spheres to solve real-world and mathematical problems. Formulas will be provided.

eliminate the pieces about if the radius is rational or irrational

I do not like that the possible answer are cluttered with testing two content areas at the same time. Using the formula of cones should be the only content tested. Remove the rational and irrational number part of this question.

Volume formulas should be provided. Students should not be expected to remember them.

M08.D-S.1.1.1: Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative correlation, linear association, and nonlinear association.

an abridged broken scatter plot is a bad choice of graph for obtaining a concise answer from student. it is confusing. a different type of graph should be chosen.

M08.D-S.1.1.2: For scatter plots that suggest a linear association, identify a line of best fit by judging the closeness of the data points to the line.

For scatter plots that suggest a linear association, identify a line of best fit. (I think students should be given the opportunity to use point-slope formula or slope-intercept formula to find the equation. Judging the closeness????? Not in 8th grade.)

scatter plots are best used for chance and probability, not for answers that are concise.

M08.D-S.1.2.1: Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible associations between the two variables. Example: Given data on whether

students have a curfew on school nights and whether they have assigned chores at home, is there evidence that those who have a curfew also tend to have chores?

extend the table to show the totals

Should Be Deleted

M08.A-N.1.1.1: Determine whether a number is rational or irrational. For rational numbers, show that the decimal expansion terminates or repeats (limit repeating decimals to thousandths).

Determining whether or not a number is rational or irrational does not have much of an impact in higher level math. It is pure classification, and not very important or helpful in the overall picture of mathematical concepts.

This question is recall and does not provide vital information for the reader...what is a rational or irrational number.

M08.A-N.1.1.2: Convert a terminating or repeating decimal to a rational number (limit repeating decimals to thousandths).

I do not feel mixing slope in with the rational and irrational anchor is appropriate. It would be difficult to judge what the student's error was confusing regarding the anchor or the presentation of the question.

I do not like the idea of the rate of change being displayed as a repeating decimal. I feel this content should be tested in another format.

No where in any of the math courses I have taught (basic grade 7 through algebra 2) have we done this except to meet the standard.

Out dated skill

Outdated skill

What would the need be to show that a repeating decimal can be changed to a fraction has anything to do with slope??

M08.A-N.1.1.3: Estimate the value of irrational numbers without a

calculator (limit whole number radicand to less than 144). Example: $\sqrt{5}$ is between 2 and 3 but closer to 2.

Real life situations should be the focus of 'every day math'. NO ONE measures the diagonal of a cell phone using a square root. The kids are turned off by content that is deemed irrelevant to their lives...like this. don't look for content that is irrelevant.

M08.A-N.1.1.4: Use rational approximations of irrational numbers to compare and order irrational numbers.

Again....common core sucks raw eggs

I do not like the manner in the way this question is asked. The students will be confused. The triangle information complicates the students knowledge of what is actually being tested.

This relies simply on calculator use and doesn't seem as important as other assessed material.

M08.A-N.1.1.5: Locate/identify rational and irrational numbers at their approximate locations on a number line.

And after it sucks raw eggs it turns our children's minds to mush.....

M08.B-E.1.1.1: Apply one or more properties of integer exponents to generate equivalent numerical expressions without a calculator (with final answers expressed in exponential form with positive exponents).

Properties will be provided. Example: $3^{12} \times 3^{-15} = 3^{-3} = 1/(3^3)$

How often do you receive packing cubes in exponential form?

This should be introduced into an Algebra course because it can then be used immediately so students will see the application and value to these rules.

M08.B-E.1.1.3: Estimate very large or very small quantities by using numbers expressed in the form of a single digit times an integer power of 10 and express how many times larger or smaller one number is than another. Example: Estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9 and determine that the world population is more than 20 times larger than the United States' population.

All estimation problems should be assessed in the classroom. It is nearly impossible to estimate whether students are using estimation skills with an objective standardized test.

I don't think it should be completely deleted, but I think there is too much of an emphasis on scientific notation on standardized tests. Some questions regarding it are good, but there are too many focused on what is a somewhat unused concept.

There is no reason that you need to write these types of questions in scientific notation

M08.B-E.1.1.4: Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Express answers in scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology (e.g., interpret 4.7EE9 displayed on a calculator as 4.7×10^9).

I think there is too much of an emphasis on scientific notation on standardized tests. Some questions regarding it are good, but there are too many focused on what is a somewhat unused concept.

JUST delete the last sentence, because calculators display scientific notation differently, and students should not be required to know what the display means.

Too much scientific notation.

M08.B-E.2.1.2: Use similar right triangles to show and explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane.

Although this provides a justification for slope and similar triangles, it is not a relationship that is utilized often to solve problems.

Your taking a simple concept and making it way harder than it needs to be. Especially for students just learning how to graph.

M08.B-E.3.1.1: Write and identify linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).

The entire statement is confusing, examples included.

Why need to show that a question has no solution. Students should demonstrate how to solve equations by actually getting an answer to the problem.

M08.B-E.3.1.2: Solve linear equations that have rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

The topic should be introduced in Pre-Algebra but not assessed.

Topic should be introduced but not assessed until Algebra I

Topic should be introduced but not assessed.

M08.B-E.3.1.3: Interpret solutions to a system of two linear equations in two variables as points of intersection of their graphs because points of intersection satisfy both equations simultaneously.

let 8th grade focus on one equation at a time to give time to develop depth of knowledge, wait for high school algebra courses to work on systems.

M08.B-E.3.1.4: Solve systems of two linear equations in two variables algebraically and estimate solutions by graphing the equations. Solve simple cases by inspection. Example: $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.

let 8th grade focus on learning about one linear equation at a time to be sure to really "get it" and wait for high school algebra classes to deal with systems

M08.B-E.3.1.5: Solve real-world and mathematical problems leading to two linear equations in two variables. Example: Given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.

the nut mixture is not guaranteed to be homogeneous, just a nut mixture of some type. The heavier nuts will fall to the bottom in any mixture. As given this is not solvable.

M08.B-F.1.1.1: Determine whether a relation is a function.

Simple recall of what is a function.

The only function middle school students encounter is linear and they do not yet fully grasp what other functions could exist.

M08.B-F.1.1.3: Interpret the equation $y = mx + b$ as defining a linear

function whose graph is a straight line; give examples of functions that are not linear.

Simple recall of linear functions.

M08.C-G.1.1.1: Identify and apply properties of rotations, reflections, and translations. Example: Angle measures are preserved in rotations, reflections, and translations.

Again, I don't see the usefulness of this information.

I do not see the purpose as to why this content is necessary. I would remove this completely.

Not important

save for high school geometry! too many topics for 8th grade - lets be great with graphing functions in two variables rather than trying to cram in so many diverse topics!!!

This belongs in a high school geometry course

M08.C-G.1.1.2: Given two congruent figures, describe a sequence of transformations that exhibits the congruence between them.

I do not see the purpose of why this type of content is necessary for 8th grade.?

Not extremely useful

Not important

save for high school geometry! too many topics for 8th grade - lets be great with graphing functions in two variables rather than trying to cram in so many diverse topics!!!

This belongs in a high school geometry course

M08.C-G.1.1.3: Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.

Not extremely useful outside the math classroom

Not important for 8th grade. High School Geometry is more appropriate to investigate this topic.

This is another skill that is not usually taught until Geometry

This is not necessary content to be tested on in 8th grade.

Not relevant to 8th grade keystone alg exam

save for high school geometry! too many topics for 8th grade - lets be great with graphing functions in two variables rather than trying to cram in so many diverse topics!!!

This belongs in a high school math course

M08.C-G.1.1.4: Given two similar two-dimensional figures, describe a sequence of transformations that exhibits the similarity between them.

Another Geometry skill, like MO8.C-G.1.1.3

I do not like this content and I do not see the purpose why an 8th grade students should know this information.

More appropriate for High School Geometry

save for high school geometry! too many topics for 8th grade - lets be great with graphing functions in two variables rather than trying to cram in so many diverse topics!!!

M08.C-G.2.1.1: Apply the converse of the Pythagorean theorem to show a triangle is a right triangle.

Usually the converse of the Pythagorean Theorem is not taught until Algebra II, or sometimes even Geometry,

M08.C-G.2.1.2: Apply the Pythagorean theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. (Figures provided for problems in three dimensions will be consistent with Eligible Content in grade 8 and below.)

It is not clear what's being asked.

M08.C-G.2.1.3: Apply the Pythagorean theorem to find the distance between two points in a coordinate system.

This question is a combination of two many topics in one single question: 2D and 3D, coordinate systems, pythagorean theorem. Way too much. . . maybe high school. . . maybe

M08.C-G.3.1.1: Apply formulas for the volumes of cones, cylinders, and spheres to solve real-world and mathematical problems. Formulas will be provided.

No time to cover it.

This belongs in a high school geometry course

M08.D-S.1.1.2: For scatter plots that suggest a linear association, identify a line of best fit by judging the closeness of the data points to the line.

Too wordy for lower level students.

M08.D-S.1.2.1: Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible associations between the two variables. Example: Given data on whether students have a curfew on school nights and whether they have assigned chores at home, is there evidence that those who have a curfew also tend to have chores?

Not important

Percentages have been removed from 8th grade standards. It is unfair to include them on the 8th grade assessment.

They will not get to it as time does not permit

Suggested Eligible Content

PA needs to do away with common core!! It is disabling our children!! I am watching my son who has always scored advanced in math on state testing now struggle with simple math because of common core!!

I honestly believe that for most students in 8th grade, algebraic concepts should be introduced but not mastered until 9th grade Algebra 1 (when most students take the Keystone).

Developmentally, students are not ready for this level of algebraic understanding. I think we should introduce the topic, build on Pre-Algebra skills from 7th grade and have students master them in 9th grade. This would allow students to gain the deeper level of understanding we want them to have for future math classes as well as in the real world situations. I am talking about the AVERAGE kid and not advanced students.

OK